



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,418	06/04/1999	KATSUAKI YAMANOI	Q54672	2787

7590

06/09/2004

SUGHRUE MION ZINN MACPEAK & SEAS PLLC
2100 PENNSYLVANIA AVENUE NW
WASHINGTON, DC 200373202

EXAMINER

CHU, KIM KWOK

ART UNIT PAPER NUMBER

2653

DATE MAILED: 06/09/2004

20

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/325,418

Applicant(s)

YAMANOI ET AL.

Examiner

Kim-Kwok CHU

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 3/23/04 (paper 19).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6,7 and 10-19 is/are allowed.
- 6) ☒ Claim(s) 1-5,9 and 20-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 20, 22, 24, 26, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ottesen (U.S. Patent 5,463,758) in view of Takagi et al. (U.S. Patent 4,695,993) and Furukawa et al. (U.S. Patent 5,315,578).

Ottesen teaches an information recording unit very similar to that of the instant invention. For example, Ottesen teaches the following:

(a) as in claim 1, a memory 70 for storing data provided for recording (Fig. 3; column 3, lines 53-55);

(b) as in claim 1, a record device for recording the data stored in the memory 70 on to recording media 74 and 75 (Fig. 4);

(c) as in claim 1, the data being recorded in at least two different areas A0 and A1 on the record media (Fig. 4, column 4, lines 17-21);

(d) as in claim 1, a decision device 82 for determining the data as valid data during the recording of the data on the record media 74 and 75 (Fig. 3; column 3, lines 60-65, parity coding is a decision process to encode a valid/proper data determined by its data values such as 1 or 0; column 2, lines 9 and 10, the stored data is a valid/proper data);

(e) as in claim 1, a data update device for updating data addresses in a control area on the record medium (Fig. 6; address information is attached/updated on each data packet during data recording; the control area is the address portion attached to the data and the inherent file allocation table);

(f) as in claim 20, the valid data is able to be used as a recorded data (Fig. 3; column 3, lines 60-65; two copies of data are recorded for redundancy).

(g) as in claim 22, the valid data is selected as data to be reproduced (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data);

(h) as in claim 24, the other one of the at least two data recorded in the different areas on the recording media, which is not detected as the valid data by the decision device, is not used during a reproduction operation (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data); and

(i) as in claim 26, the recording media are discs (Fig. 4).

However, Ottesen does not teach the following:

(a) as in claim 1, updates the data addresses such that any one of the different areas, of which the data is not determined to be valid, is blank;

(b) as in claim 28, the disc is an optical disk; and

(c) as in claim 30, the disc is a mini-disc.

Takagi teaches the following:

(a) updates the data addresses such that any one of the different areas, of which the data is not determined to be valid, with a predetermined signal (Fig. 5; column 6, lines 42-53).

Furukawa teaches the following:

(a) an optical disk with redundant data storage locations (Figs. 1, 2a and 2b; column 1, lines 32-35); and

(b) the optical disk is a mini-disc (abstract, line 1 discloses the disk is a compact size disc).

When a recording medium has invalid data, its location should be marked and access of the address of this location should be avoided. Hence, as Ottesen's stored data is updated with address information and in case that a corrupted data is stored in a bad sector, it would have been obvious to one of ordinary skill in the art to overwrite the address of the bad

data with a predetermined signal such as Takagi's, so that the data location with the predetermined signal can be distinguished from other normal data locations.

Furthermore, although Takagi does not disclose that his predetermined signal overwritten to the address is a blank signal, it would have been obvious to one of ordinary skill in the art to use a blank signal as the predetermined signal, because the blank address in the record medium would not be accessed by the record device.

In addition, the redundancy of recording data is not limited to a magnetic medium such as Ottesen's. For the advantage of distributing the information recorded in a single medium instead of two recording media such as Ottesen's, it would have been obvious to one of ordinary skill in the art to use an optical compact disc such as Furukawa's when redundant data such as Ottesen's is recorded, because the optical recording medium is in the form of a single removable mini-size disc.

3. Claims 2-5, 9, 21, 23, 25 27, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ottesen (U.S. Patent 5,463,758) in view of Takagi et al. (U.S. Patent 4,695,993) and Furukawa et al. (U.S. Patent 5,315,578).

Ottesen teaches an information recording unit very similar to that of the instant invention. For example, Ottesen teaches the following:

(a) as in claim 2, a memory 70 for storing data provided for recording (Fig. 3);

(b) as in claim 2, a record device for intermittently recording the stored data in the memory 70 onto recording media 74 and 75 (Fig. 4);

(c) as in claim 2, a valid-data decision device 82 for determining whether the recorded data is valid (Fig. 3; column 3, lines 60-65, parity check is a determining process to indicate whether the stored data has an error);

(d) as in claim 2, the data being recorded in at least two different areas on the recording media 74 and 75 (Fig. 4, column 4, lines 17-21);

(e) as in claim 2, the valid-data decision device 82 determines one valid data among the recorded data of the different areas A1 and A0 on the record media 74 and 75 as valid data during the recording of the data on the recording media 74 and 75 (Fig. 3; column 3, lines 60-65, parity coding

is a decision process to encode a valid/proper data determined by its data values such as 1 or 0; column 2, lines 9 and 10, the stored data is a valid/proper data);

(f) as in claim 2, a data update device for updating data addresses in a control area on the record medium (Fig. 6; address information is attached/updated on each data packet during data recording; the control area is the address portion attached to the data and the inherent file allocation table);

(g) as in claim 3, a record control device 72 for controlling the record device (Fig. 3; column 3, lines 51-53);

(h) as in claim 3, the record control device 72 provides a control command for the record device to record a predetermined quantity of data stored in the memory 70 at a first recording location A1 on the recording media 74 and 75 and also provides a control command for the record device to read the predetermined quantity of data at a second recording location A0 different from the first recording location A1 after the predetermined quantity of data is recorded at the first recording location A1 (Fig. 3);

(i) as in claim 4, a blank area search device for searching a blank area on the record media 74 and 75, wherein the first recording location A1 has a predetermined address of a blank area searched by the blank area search device, and the second recording location A0 has an address different from the

predetermined address of the searched blank area (Fig. 4; blank area on the recording media is a non-recorded block/zone.

Therefore, searching addresses of blocks/zones which are not yet occupied is a necessary requirement for a typical recording process);

(j) as in claim 5, the data update device updates a data address of which data has been decided to be valid by the valid-data decision device (Fig. 8, step 322 or 318);

(k) as in claim 9, the record device continues recording into the first recording location A1 until the remaining data quantity in the memory reaches a predetermined quantity (Fig. 4; the predetermined quantity is a sector length);

(l) as in claim 9, the recording device continues recording into the second recording location A0 until the record device has recorded data originally identical with the data that has been recorded into the first recording location A1 (Fig. 4, mirrored file recording process);

(m) as in claim 21, the valid data is able to be used as a recorded data (Fig. 3; column 3, lines 60-65; two copies of data are recorded for redundancy);

(n) as in claim 23, the valid data is selected as data to be reproduced (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data);

(o) as in claim 25, the other one of the at least two data recorded in the different areas on the recording media, which is not detected as the valid data by the decision device, is not used during a reproduction operation (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data); and

(p) as in claim 27, the recording media are discs (Fig. 4).

However, Ottesen does not teach the following:

(a) as in claim 2, updates the data addresses such that any one of the different areas, of which the data is not determined to be valid, is blank;

(b) as in claim 29, the disc is an optical disk; and

(c) as in claim 31, the disc is a mini-disc.

Takagi teaches the following:

(a) updates the data addresses such that any one of the different areas, of which the data is not determined to be valid, with a predetermined signal (Fig. 5; column 6, lines 42-53).

Furukawa teaches the following:

(a) an optical disk with redundant data storage locations (Figs. 1, 2a and 2b; column 1, lines 32-35); and

(b) the optical disk is a mini-disc (abstract, line 1 discloses the disk is a compact size disc).

When a recording medium has invalid data, its location should be marked and access of the address of this location should be avoided. Hence, as Ottesen's stored data is updated with address information and in case that a corrupted data is stored in a bad sector, it would have been obvious to one of ordinary skill in the art to overwrite the address of the bad data with a predetermined signal such as Takagi's, so that the data location with the predetermined signal can be distinguished from other normal data locations.

Furthermore, although Takagi does not disclose that his predetermined signal overwritten to the address is a blank signal, it would have been obvious to one of ordinary skill in the art to use a blank signal as the predetermined signal, because the blank address in the record medium would not be accessed by the record device.

In addition, the redundancy of recording data is not limited to a magnetic medium such as Ottesen's. For the advantage of distributing the information recorded in a single medium instead of two recording media such as Ottesen's, it would have been obvious to one of ordinary skill in the art to use an optical compact disc such as Furukawa's when redundant data such as Ottesen's is recorded, because the optical recording medium is in the form of a single removable mini-size disc.

Allowable Subject Matter

4. Claims 6, 7 and 10-19 are allowable over prior art.

5. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claims 6, 7, 18 and 19, the prior art of record fails to teach or fairly suggest the following features:

(a) a recording unit having a vibration/servo detection device;

(b) the first storage device stores a first flag indicating the occurrence of a vibration in relation to a predetermined address; and

(c) the second storage device stores a second flag in relation to another predetermined address so as to indicate the decision of the valid-data decision device.

As in claims 10, 11, 14 and 15, the prior art of record fails to teach or fairly suggest the following features:

(a) a recording unit where two data each is recorded two times and a valid-data decision device for determining whether the data is valid based on a result of a disturbing vibration during each of the two recording operations.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bailey (6,061,194) is pertinent because Bailey teaches device and method for storing and retrieving original and redundant data.

Iwasa et al. (5,887,128) is pertinent because Iwasa teaches a redundant disk storage system.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C.
20231 Or faxed to:

(703) 872-9306 (for formal communications intended for
entry. Or:

(703) 746-6909, (for informal or draft communications,
please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park
II, 2021 Crystal Drive, Arlington. VA., Sixth Floor
(Receptionist).

Any inquiry of a general nature or relating to the status
of this application should be directed to the Group
receptionist whose telephone number is (703) 305-4700.

Any inquiry concerning this communication or earlier
communications from the examiner should be directed to Kim CHU
whose telephone number is (703) 305-3032 between 9:30 am to
6:00 pm, Monday to Friday.

Kim-Kwok CHU
Examiner AU2653
June 3, 2004

(703) 305-3032

William Korzuch
WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

kc 6/3/04